

REMARKS

Claim 15 is amended for clarity such that the original step (e) is divided into three separate steps of 'heating', 'aligning' and 'first fixing.' Further, the step of performing a first fixing additionally includes 'pressing the chips.'

In new claim 18, as to 'first fixing', the term 'by pressing only' is included (not included in claim 15). Claim 18 is supported at page 5, lines 17-18, and patentable for the reasons below. In response to the outstanding Office Action:

Several rejections were made:

(1) claims 3, 5, 6, 8 and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over applicants' admitted prior art, Maeda, and Koga;

(2) claims 5, 6, 8 and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over applicants' admitted prior art, Maeda and Koga, and further in combination with Sakata;

(3) claim 16 is rejected under 35 U.S.C. §103(a) as being unpatentable over applicants' admitted prior art, Maeda and Koga, and further in combination with DiStefano;

(4) claim 16 is rejected under 35 U.S.C. §103(a) as being unpatentable over applicants' admitted prior art, Maeda, Koga and Sakata, and further in combination with DiStefano;

(5) claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over applicants' admitted prior art, Maeda and Koga, and further in combination with Fujimoto; and

(6) claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over applicants' admitted prior art, Maeda, Koga and Sakata, and further in combination with Fujimoto.

These rejections are respectfully traversed.

AAPA. The Examiner states that the admitted prior art discloses (1) aligning the chip to the mounting parts at a first stage and (2) performing a first fixing of the chips with a first pressure by a bonding head.

The Applicants' specification at page 2, line 12, states, "In FIG. 1E, [1] the stud-bumps 14 on the semiconductor chip 11 are aligned to the mounting pads 17a on the substrate 17. And subsequently [2], these components are pressed and heated by the bonding head".

Even if the element (1) of the AAPA corresponded to aligning the chip to the mounting parts, however, the element (2) does not correspond to the. Since this part (2) describes pressing/heating, it instead corresponds to the "second fixing step" of claim 15.

The Applicants claim *two* steps of pressing the chips, and the AAPA does not. According to the admitted prior art, in part (2) the chips are fixed to the substrate. Thus, the admitted prior art does not suggest the necessity of the two steps of pressing the chips.

Maeda. Maeda is silent on pressing the chips and therefore silent on two steps of pressing the chips. On the other hand, the Applicants not employ two steps of pressing the chips but also press without heat in the first step while, in the second step, the chips are heated and pressed.

Koga. The Examiner cited Koga for step (e) of claim 15, and asserts combination of Koga with the admitted prior art. However, pressing/heating the chips is already disclosed and thus both these prior-art references disclose approximately the same contents. If the element (2) and the disclosure of Koga were combined, it could be said that, Koga may explain the contents of the element (2), but it does not suggest adding to the admitted prior art a further step of

pressing and heating the chips.

Koga is silent on a step corresponding to “first fixing” of the Applicants. The left side of the abstract of Koga merely shows a step of *placing* a chip on a substrate. Such a step might be asserted to correspond to a step of *aligning* the chips as described in the Applicant’s specification, but the left side of the abstract of Koga discloses nothing related to “pressing a chip.”

However, in the step (e) (previous claim 15) of “performing a first fixing,” there was not an explicit recitation of “pressing the chips.” The previous claim 15 recited a “first pressure” which might be understood as pressing the chips. However, pressing the chips is not a necessary interpretation. When a condition of “second pressure” being greater than “first pressure” is met, a condition where a pressing force is approximately 0 is covered. Therefore, when claim 15 is broadly interpreted, an operation of merely placing a chip on a substrate of Maeda may read on the step of performing a “first fixing” of the present invention. Thus, the chip-placing step of Maeda may read on the “first fixing” of the present invention. The Applicants presume that this is the reason why the Examiner uses the term “second fixing” concerning Maeda. Therefore, claim 15 is amended to explicitly recite “pressing the chips” as mentioned above.

Other Claims. The other claims under consideration depend from claim 15 and are patentable at least for the reasons above. The Applicant’s previous arguments of July 11, 2007 are respectfully reiterated.

The status of claims 9 and 10 is questioned. These were withdrawn early in the examination but now are listed on page 1 as rejected. Clarification is requested.

In view of the aforementioned amendments and accompanying remarks, claims, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper to Deposit Account No. 01-2340.

Respectfully submitted,

KRATZ, QUINTOS & HANSON, LLP



Nick S. Bromer
Attorney for Applicants
Reg. No. 33,478

NSB/lrj

Atty. Docket No. **950107A**
Suite 400
1420 K Street, N.W.
Washington, D.C. 20005
(202) 659-2930



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